

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (original) A formulation comprising an anticancer agent and a base excision repair (BER) inhibitor admixed with pharmaceutically acceptable excipient, wherein the anticancer agent induces formation of AP sites.

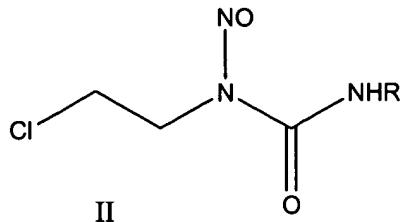
2.-58. (cancelled)

59. (currently amended) A method for potentiating a therapeutic effect of an anticancer agent that induces formation of AP sites, comprising administering a base excision repair (BER) inhibitor, whereby the base excision repair inhibitor potentiates the effect of the anticancer agent.

60. (original) The method of claim 59, wherein said anticancer agent is selected from a DNA oxidizing agent, ultraviolet radiation, a DNA intercalating agent, a radiosensitizing agent, a cross-linking agent, and an alkylating agent.

61. (original) The method of claim 60, wherein said anticancer agent is a cross-linking agent.

62. (currently amended) The method of claim 61, wherein said a cross-linking agent is a mustine having the structure of formula II:

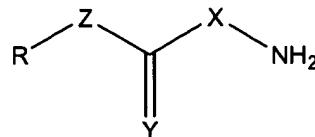


wherein R is an optionally substituted hydrocarbon substituent.

63. (cancelled)

64. (currently amended) The method of any one of claims 60, or 62, or 63, wherein said BER inhibitor is an AP endonuclease inhibitor.

65. (original) The method of claim 64, wherein said AP endonuclease inhibitor is selected from methoxyamine and a compound having a structure of Formula I:



Formula I

wherein X is O or NH,

Y is O, S, or NH,

Z is absent or represents O, S, or NH, and

R represents a hydrogen or a hydrocarbon moiety,

and pharmaceutically acceptable salts thereof.

66. (cancelled)

67. (original) The method of claim 64, wherein said method further comprises administering a topoisomerase inhibitor.

68-69. (cancelled)

70. (currently amended) The method of any one of claims 60, or 62, or 63, wherein said BER inhibitor is a PARP inhibitor.

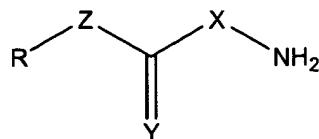
71-74. (cancelled)

75. (original) The method of claim 60, wherein said anticancer agent is an alkylating agent.

76. (cancelled)

77. (currently amended) The method of any one of claims 75 ~~or 76~~, wherein said BER inhibitor is an AP endonuclease inhibitor.

78. (original) The method of claim 77, wherein said AP endonuclease inhibitor is selected from methoxyamine and a compound having a structure of Formula I:



Formula I

wherein X is O or NH,

Y is O, S, or NH,

Z is absent or represents O, S, or NH, and

R represents a hydrogen or a hydrocarbon moiety,

and pharmaceutically acceptable salts thereof.

79-82. (cancelled)

83. (original) The method of claim 60, wherein said anticancer agent is a DNA oxidizing agent.

84. (cancelled)

85. (original) The method of claim 60, wherein said anticancer agent is a radiosensitizing agent.

86-87. (cancelled)

88. (original) The method of claim 60, wherein said anticancer agent is ultraviolet radiation.

89-92. (cancelled)

93. (currently amended) The method of ~~any one of~~ claims 75 or 76, wherein said BER inhibitor is a PARP inhibitor.

94-97. (cancelled)

98. (original) The method of claim 59, wherein the amount of anticancer agent is subtherapeutic when administered in the absence of the base excision repair inhibitor.

99. (original) The method of claim 59, wherein said base excision repair inhibitor is selected from an AP endonuclease inhibitor, a DNA glycosylase inhibitor, a DNA polymerase inhibitor, a PARP inhibitor, and a DNA ligase inhibitor.
100. (original) The method of claim 99, wherein said base excision repair inhibitor is an AP endonuclease inhibitor.
101. (original) The method of claim 99, wherein said base excision repair inhibitor is a PARP inhibitor.
102. (cancelled)
103. (original) The method of claim 99, wherein said BER inhibitor is an inhibitor of DNA polymerase.
104. (original) The method of claim 103, wherein said inhibitor of DNA polymerase inhibits DNA polymerase β , γ , or ϵ .
105. (original) The method of claim 99, wherein said base excision repair inhibitor is a DNA ligase inhibitor.
106. (original) The method of claim 105, wherein said DNA ligase inhibitor inhibits the action of DNA ligase I or DNA ligase II.
- 107-110. (cancelled)
111. (original) The method of claim 59, wherein said method further comprises administering a DNA alkyltransferase inhibitor.
112. (cancelled)
113. (original) The method of claim 59, wherein said method further comprises administering a topoisomerase inhibitor.
- 114-171. (cancelled)

172. (currently amended) A kit comprising a pharmaceutical preparation comprising a base excision repair (BER) inhibitor and instructions for coadministration of the pharmaceutical preparation with an anticancer agent that induces formation of AP sites.

173.-229. (Cancelled)